IN THE CLAIMS

Please replace the claims as filed with the claims set forth below.

1. (Currently Amended) An optical sensor, comprising a detection module, which detection module comprises a flexible carrier, an organic light emitting diode ~~(1)~~ and an organic detection photodiode ~~(2, 2a)~~ for measuring emitted light which during the use of the sensor reaches the photodiode via a sample holder, the sample holder containing an active layer of which an optical property changes when the active layer is in contact with a component to be measured, and the sensor being of the reflective type.

2. (Previously Presented) The optical sensor according to claim 1, wherein the photodiode is a photovoltaic cell.

3. (Currently Amended) The optical sensor according to claim 1, wherein the sensor comprises an organic reference photodiode ~~(2, 2b)~~ for measuring a reference signal coming from said light emitting diode of the detection module or from a second light emitting diode.

4. (Currently Amended) The optical sensor according to claim 3, wherein the referenced photodiode ~~diode~~ forms part of a reference module, which reference module ~~optionally~~ further comprises a blank holder.

5. (Previously Presented) The optical sensor according to claim 1, wherein the organic light emitting diode, the organic detection photodiode and the sample holder are situated on or in a carrier material in one piece.

6. Cancelled

7. (Currently Amended) The optical sensor according to claim 1, wherein the light emitting diode and the photodiode in the detection module and ~~optionally~~ in the reference module are connected with each other through a plastic waveguide (~~5~~) .

8. (Currently Amended) The optical sensor according to claim 7, wherein at least a part of the waveguide (~~5~~) has a trapezoidal shape with a top side (a), a base side (b) and two oblique sides (c), ~~a~~ the sample holder (~~3~~) is situated at the top side (a), and the light emitting diode and the photodiode are situated on opposite sides of the sample holder (~~3~~) on the base side (b).

9. (Previously Presented) The optical sensor according to claim 8, wherein the top side (a) and the base side (b) are at least substantially parallel to each other.

10. (Previously Presented) The optical sensor according to claim 8, wherein at least one of the oblique sides of the plastic waveguide is provided with a reflecting layer.

11. (Previously Presented) The optical sensor according to claim 8, wherein the angle between the base side and at least one oblique side is 10-70°.

12. (Previously Presented) The optical sensor according to claim 4, wherein the detection module, and the reference module, is situated on or is embedded in a plastic carrier material which is provided with an electronic circuit.

13. (Previously Presented) The optical sensor according to claim 1, wherein the light emitting diode is a polymeric light emitting diode, having in the photoactive layer as electroluminescent compound a polymer selected from a group consisting of polyarylene compounds, poly(paraphenylene vinylene) compounds, polyfluorene compounds, polyacetylene compounds, polythiophene compounds, polypyrroles, polyanilines, including derivatives of said polymers, copolymers of said polymers and said polymers provided with a dye.

14. (Currently Amended) The optical sensor according to claim 3, wherein one of the detection photodiode and the reference photodiode is a polymeric photodiode, ~~preferably a photodiode~~ having in the photoactive layer a polymer selected from the group consisting of polyarylene compounds, poly(paraphenylene vinylene) compounds, polyfluorene compounds, polyacetylene compounds, polythiophene compounds, polypyrroles, polyanilines, including derivatives of said polymers, copolymers of said polymers and said polymers provided with a dye.

15. (Previously Presented) The optical sensor according to claim 8, wherein the waveguide comprises at least substantially one or more plastics selected from a group consisting of polycarbonates (e.g. polymethylmethacrylate perspex), cyclic olefinic polymers (e.g. Zeonex®, Topas), polymethyl pentenes (e.g. TPX™), polymethyl-methacrylates (PMMA), polystyrenes (PS), polyamides, polyvinyl chlorides, polyethyl- terephthalates, polypropylenes, styrene butadiene styrene copolymers, cellulose polymers, polyethylenes and polynorbornenes.

16. (Currently Amended) The optical sensor according to claim 1, wherein the sample holder contains an active layer of which ~~an optical property, preferably~~ at least one of the refractive index, the UV-VIS absorption, the fluorescence or the IR absorption, changes when the active layer is in contact with a component to be measured.

17. (Previously Presented) The optical sensor according to claim 16, wherein the active layer is selected from the group consisting of ion exchangers, ion-selective permeable membranes and gas-selective permeable membranes.

18. (Previously Presented) The optical sensor according to claim 16, wherein the optical property of the active layer changes as a result of the presence of a component selected from the group consisting of alcohols, in particular ethanol, carbon dioxide, ammonia, oxygen and water.

19. (Previously Presented) The optical sensor according to claim 1, comprised substantially of plastic.

20. (Currently Amended) An array of optical sensors each comprising a detection module, which detection module comprises a flexible carrier, an organic light emitting diode ~~(1)~~ and an organic detection photodiode ~~(2, 2a)~~ for measuring emitted light which during the use of the sensor reaches the photodiode via a sample holder ~~according to claim 1~~ ,the sample holder containing an active layer of which an optical property changes when the active layer is in contact with a component to be measured, and the sensor being of the reflective type.

21. (Currently Amended) A method for manufacturing an optical sensor comprising:

providing a detection module comprised of a flexible carrier, a sample holder containing an active layer of which an optical property changes when the active layer is in contact with a component to be measured, the detection module being of the reflective type, the detection module further comprising an organic light emitting diode ~~(1)~~; and

associating the detection module with an organic detection photodiode ~~(2)~~.

22. (Currently Amended) The method for manufacturing an optical sensor according to claim 21, further comprising:

associating a reference module composed from an organic light emitting diode (1), with the optical sensor; and

associating an organic reference photodiode ~~(2)~~ with the sensor.

23. (Currently Amended) The method according to claim 21, wherein one of the light emitting diode ~~(1)~~ and the photodiode ~~(2, 2a, 2b)~~ is manufactured by means of injection molding, printing, dip coating, vacuum deposition or spin coating.

24. (Currently Amended) The method according to claim 21, wherein the diodes are manufactured on at least one of a surface of ~~the~~ a waveguide, a surface of a carrier material for the detection module, an electronic circuit and the reference module.

25. (Previously Presented) The method according to claim 21, wherein the waveguide is manufactured by means of injection molding or extrusion.

26. (Previously Presented) The method according to claim 21, wherein the detection module is built up integrally.

27. (Previously Presented) The method according to claim 21, wherein the light emitting diode and the detection photodiode are provided in association with one carrier material and the carrier material is then folded.

28. (Previously Presented) The method according to claim 21, wherein the sensor is provided with one of a plastic and metal covering layer, and the sample holder remains at least substantially free of the covering layer.

29. Cancelled

30. Cancelled

31. Cancelled